Filing at a Glance

Company:	Globe Life And Accident Insurance Company
Product Name:	ESWL2001-ESWL2001GD Rates
State:	District of Columbia
TOI:	L07I Individual Life - Whole
Sub-TOI:	L07I.101 Fixed/Indeterminate Premium - Single Life
Filing Type:	Rate
Date Submitted:	11/15/2019
SERFF Tr Num:	AMLC-132158000
SERFF Status:	Submitted to State
State Tr Num:	
State Status:	
Co Tr Num:	ESWL RATES
Implementation Date Requested:	
Author(s):	David Mather
Reviewer(s):	
Disposition Date:	
Disposition Status:	
Implementation Date:	

State: *District of Columbia* **Filing Company:** *Globe Life And Accident Insurance Company*
TOI/Sub-TOI: *L07I Individual Life - Whole/L07I.101 Fixed/Indeterminate Premium - Single Life*
Product Name: *ESWL2001-ESWL2001GD Rates*
Project Name/Number: */*

General Information

Project Name:
Project Number:
Requested Filing Mode: Review & Approval

Explanation for Combination/Other:
Submission Type: New Submission
Overall Rate Impact:

Deemer Date:
Submitted By: David Mather

Status of Filing in Domicile: Not Filed
Date Approved in Domicile:
Domicile Status Comments: Rate filing not required in Nebraska.
Market Type: Individual
Individual Market Type:
Filing Status Changed: 11/15/2019
State Status Changed:
Created By: David Mather
Corresponding Filing Tracking Number:

Filing Description:
NAIC: 290-91472
FEIN: 63-0782739
RE: ESWL2001 and ESWL2001GD Rate Filing

Attached for your review and approval is a copy of the above mentioned rates for form ESWL2001 and ESWL2001GD. ESWL2001 and riders were filed and approved by your department on 4/3/18 under SERFF Tracking Number AMLC-131407124. ESWL2001GD was filed and approved by your department on 4/18/18 under SERFF Tracking Number AMLC-131451233.

Premium rate schedule and other supporting documentation are provided, as required.

We are looking forward to your expedient review and approval of this form. If you have any questions or concerns, please feel free to contact me at (214) 250-5174, or by e-mail at drmather@Globe.Life.

Sincerely,

David R Mather
Team Lead, Product Compliance

Company and Contact

Filing Contact Information

David Mather, Compliance Lead Analyst
3700 S. Stonebridge Drive
McKinney, TX 75070

drmather@Globe.Life
214-250-5174 [Phone]

Filing Company Information

Globe Life And Accident Insurance Company
P.O. Box 8080
McKinney, TX 75070
(800) 801-6831 ext. [Phone]

CoCode: 91472
Group Code: 290
Group Name: Liberty National
FEIN Number: 63-0782739

State of Domicile: Nebraska
Company Type: Life and Health
State ID Number:

State: District of Columbia **Filing Company:** Globe Life And Accident Insurance Company
TOI/Sub-TOI: L07I Individual Life - Whole/L07I.101 Fixed/Indeterminate Premium - Single Life
Product Name: ESWL2001-ESWL2001GD Rates
Project Name/Number: /

Filing Fees

Fee Required? No

Retaliatory? No

Fee Explanation:

SERFF Tracking #:	*AMLC-132158000*	***State Tracking #:***		***Company Tracking #:***	*ESWL RATES*

State:	*District of Columbia*	***Filing Company:***	*Globe Life And Accident Insurance Company*
TOI/Sub-TOI:	*L07I Individual Life - Whole/L07I.101 Fixed/Indeterminate Premium - Single Life*		
Product Name:	*ESWL2001-ESWL2001GD Rates*		
Project Name/Number:	*/*		

Rate Information

Rate data does NOT apply to filing.

SERFF Tracking #:	*AMLC-132158000*	***State Tracking #:***		***Company Tracking #:***	*ESWL RATES*

State:	*District of Columbia*	***Filing Company:***	*Globe Life And Accident Insurance Company*
TOI/Sub-TOI:	*L07I Individual Life - Whole/L07I.101 Fixed/Indeterminate Premium - Single Life*		
Product Name:	*ESWL2001-ESWL2001GD Rates*		
Project Name/Number:	*/*		

Rate/Rule Schedule

Item No.	Schedule Item Status	Document Name	Affected Form Numbers (Separated with commas)	Rate Action	Rate Action Information	Attachments
1		ESWL2001 Premium Rates	ESWL2001, 17ESDICR, 17ESDIADR, 17FP-4162R	New		DC - ESWL2001 & Riders.xlsx,
2		ESWL2001GD Premium Rates	ESWL2001GD, 17ESDICR, 17ESDIADR, 17FP-4162R	New		DC - ESWL2001GD & Riders.xlsx,

SERFF Tracking #:	AMLC-132158000	**State Tracking #:**		**Company Tracking #:**	ESWL RATES

State:	District of Columbia	**Filing Company:**	Globe Life And Accident Insurance Company
TOI/Sub-TOI:	L07I Individual Life - Whole/L07I.101 Fixed/Indeterminate Premium - Single Life		
Product Name:	ESWL2001-ESWL2001GD Rates		
Project Name/Number:	/		

Attachment DC - ESWL2001 & Riders.xlsx is not a PDF document and cannot be reproduced here.

Attachment DC - ESWL2001GD & Riders.xlsx is not a PDF document and cannot be reproduced here.

SERFF Tracking #:	*AMLC-132158000*	***State Tracking #:***		***Company Tracking #:***	*ESWL RATES*

State:	*District of Columbia*	***Filing Company:***	*Globe Life And Accident Insurance Company*
TOI/Sub-TOI:	*L07I Individual Life - Whole/L07I.101 Fixed/Indeterminate Premium - Single Life*		
Product Name:	*ESWL2001-ESWL2001GD Rates*		
Project Name/Number:	*/*		

Supporting Document Schedules

Satisfied - Item:	Actuarial Justification
Comments:	
Attachment(s):	ESWL2001 ActMem.pdf ESWL2001GD ActMem.pdf
Item Status:	
Status Date:	

Globe Life and Accident Insurance Company

Oklahoma City, Oklahoma

Actuarial Memorandum

Whole Life

Policy Form : ESWL2001

This actuarial memorandum is an actuarial report. The purpose of this report is to be used by state officials as a product description, to demonstrate that nonforfeiture of the product meets the minimum requirements of your state, and to declare the statutory reserve basis. This report is not intended to be used for any other purpose or by any other parties.

TYPE :

Nonparticipating whole life insurance

BENEFITS :

Death benefit is available for life. Benefits are reasonable in relation to the premium charged.
The minimum issue amount is $1,000.

PREMIUMS :

At the option of the applicant, the premiums will either be payable until the policy anniversary following the insured's 65th birthday, or payable for life.

ISSUE AGE RANGE :

0-55 (policies that are paid-up at age 65)
35-76 (policies payable for life)
Premiums may be developed in the future to expand the issue age range.

BASIS OF NONFORFEITURE VALUES

Mortality:	2017 CSO - age last birthday - ultimate - composite smoker-nonsmoker Table D (50%-50% male/female blend) in markets subject to the Norris decision. Curtate
Interest Rate:	4.50%
Cash Values:	Equal to or greater than the minimum required by the Standard Nonforfeiture Law. Rounded to near cent.
Reduced Paid-Up:	Level for life, rounded to high dollar
Extended Term Insurance:	Level, term period rounded to at least high day

For nonforfeiture at times other than on policy anniversaries, the straight line interpolation method used. This is allowed due to level premiums and benefits within each policy year.

BASIS OF RESERVE:

Valuation basis will meet the current requirements of the valuation law.
The Basis of Reserves may be adjusted for future new business if required or allowed by prevailing valuation laws.

CHARGES:

Initial acquisition expense charges, expense charges, surrender charges and cost of insurance (COI) charges are not applicable.
This is a traditional nonparticipating life insurance product. This is not a universal life and not an interest sensitive product.

ILLUSTRATIONS:

Not Required. All elements are guaranteed. This form does not have indeterminate premiums.

A. General Formulas (Per Unit Basis, 1 Unit = $1,000)

Definitions

DB_t = Death Benefit at beginning of Policy Year t
= DB_1 for all t

b = age benefit period ends = 121

p = age premium period ends = 65 or 121

${}_tPVBEN'_{x:\overline{b-x-t}|}$ = Present Value of Future Benefits for issue age x at duration t (curtate basis, used for nonforfeiture calculations)

$$= \left(\sum_{k=t}^{b-x-1} DB_{k+1} * C_{x+k} \right) / D_{x+t}$$

${}_tPVBEN'_{x:\overline{b-x-t}|} = 1000A_{x+t}$ and ${}_0PVBEN'_{x:\overline{b-x}|} = 1000A_x$

GPR_k = Gross Premium Ratio in Policy Year k+1 = (Gross Prem in Pol Yr k+1) / (Gross Prem in Pol Yr 1)
k= 0, 1, 2, 3, …., p-x-1
GPR_k=1 for all k

$\ddot{a}''_{x+t:\overline{p-x-t}|}$ = Present Value of the future gross premium ratios at duration t for issue age x (curtate basis)

$$\sum_{k=0}^{p-(x+t)-1} (GPR_{k+t}) v^k {}_kp_{x+t}$$; where GPR_k is the Gross Premium Ratio in Policy Year k+1

$\ddot{a}''_{x+t:\overline{p-x-t}|} = \ddot{a}_{x+t:\overline{p-x-t}|}$

B. Nonforfeiture Values

1.) Cash Values per Unit

${}_{p-x}P'^{NLP}_{x:\overline{b-x}|}$ = Nonforfeiture Net Level Premium $= {}_0PVBEN'_{x:\overline{b-x}|} / \ddot{a}_{x:\overline{p-x}|} = {}_{p-x}P_x^{NLP} = 1000A_x / \ddot{a}_{x:\overline{p-x}|}$

AAI = $\left(\sum_{t=1}^{Min[10,b-x]} DB_t \right) / (Min[10,b-x])$ = Average Amount of Insurance

${}_{p-x}P'^{A}_{x:\overline{b-x}|}$ = Nonforfeiture Factor $= {}_{p-x}P_x^A$
$= ({}_0PVBEN'_{x:\overline{b-x}|} + .01AAI + 1.25 * Min[{}_{p-x}P_x^{NLP}, .04AAI]) / \ddot{a}_{x:\overline{p-x}|}$

${}_tCV_x$ = Max [${}_tPVBEN'_{x:\overline{b-x-t}|} - {}_{p-x}P_x^A * \ddot{a}_{x+t:\overline{p-x-t}|}$, 0], round near cent

2.) Reduced Paid Up Insurance per Unit

${}_tPU_x$ = ${}_tCV_x / A'_{x+t:\overline{b-x-t}|}$, rounded to high dollar

3.) Extended Term Insurance

Years = y = Largest integer for which $DB_{t+1} * A'_{x+t:\overline{y}|} <= {}_tCV_x$

Days = d = $365 * ({}_tCV_x - DB_{t+1} * A'_{x+t:\overline{y}|}) / (DB_{t+1} * A'_{x+t:\overline{y+1}|} - DB_{t+1} * A'_{x+t:\overline{y}|})$,
d is rounded to the next highest integer

ETI period will be at least y years and d days.

C. Sample Calculation - Premiums Paid Up at 65

Issue Age 35; $1,000 Coverage per Unit; End of Policy Year 20
2017 CSO-ALB-D at 4.50%

DB_t = 1000 for all t

b = age benefit period ends = 121
p = age premium period ends = 65

1.) Cash Values per Unit

${}_{65\text{-}35}P'^{NLP}_{35:121-35\urcorner|}$ = Nonforfeiture Net Level Premium = ${}_0PVBEN'_{35:121-35\urcorner|} / \ddot{a}_{35:65-35\urcorner|}$

$= {}_{65\text{-}35}P^{NLP}_{35}$ = $1000A_{35} / \ddot{a}_{35:30\urcorner|}$

= 149.2877188 / 16.63876818 = 8.9722819

$AAI = \left(\sum_{t=1}^{Min\,[10,121-35]} DB_t \right) / (Min[10,121-35])$ = Average Amount of Insurance = 1000

${}_{65\text{-}35}P'^{A}_{35:121-35\urcorner|}$ = Nonforfeiture Factor = ${}_{30}P^{A}_{35}$

$= ({}_0PVBEN'_{35:121-35\urcorner|} + .01AAI + 1.25 * Min[{}_{65\text{-}35}P'^{NLP}_{35:121-35\urcorner|}, .04AAI]) / \ddot{a}_{35:65-35\urcorner|}$

$= (1000A_{35} + .01(1000) + 1.25 * Min[{}_{30}P^{NLP}_{35}, .04(1000)]) / \ddot{a}_{35:30\urcorner|}$

= (149.2877188 + 10 + 1.25 * Min[8.9722819 , 40] / 16.63876818 = 10.247337

${}_{20}CV_{35}$ = Max [${}_{20}PVBEN'_{35:121-35-20\urcorner|} - {}_{65\text{-}35}P'^{A}_{35:121-35\urcorner|} * \ddot{a}_{35+20:65-35-20\urcorner|}$, 0], round near cent

$= Max [1000A_{55} - {}_{30}P^{A}_{35} * \ddot{a}_{55:10\urcorner|}$, 0]

= 313.5276662 - (10.247337)(8.10612935) = 230.461427 ==> 230.46

2.) Reduced Paid Up Insurance per Unit

${}_{20}PU_{35}$ = ${}_{20}CV_{35} / A'_{35+20:121-35-20\urcorner|}$, rounded to high dollar

$= {}_{20}CV_{35} / A_{55}$ = 230.46 / .31352767 = 735.055 ==> 736

3.) Extended Term Insurance

Years = y = Largest integer for which $DB_{t+1} * A'_{x+t:y\urcorner|} <= {}_tCV_x$

$DB_{20+1} * A'_{35+20:31\urcorner|} <= {}_{20}CV_{35} < DB_{20+1} * A'_{35+20:32\urcorner|}$

226.3813682 <= 230.46 < 237.0916605

Years = y = 31

Days = d = $365 * ({}_{20}CV_{35} - DB_{20+1} * A'_{35+20:31\urcorner|}) / (DB_{20+1} * A'_{35+20:31+1\urcorner|} - DB_{20+1} * A'_{35+20:31\urcorner|})$,

d is rounded to the next highest integer

= 365 * (230.46 - 226.3813682) / (237.0916605 - 226.3813682) = 138.997 ==> 139

ETI period will be at least 31 years and 139 days.

D. Sample Calculation - Premiums Payable for Life

Issue Age 35; $1,000 Coverage per Unit; End of Policy Year 20
2017 CSO-ALB-D at 4.50%

DB_t = 1000 for all t

b = age benefit period ends = 121
p = age premium period ends = 121

1.) Cash Values per Unit

$_{121-35}P'^{NLP}_{35:121-35\urcorner|}$ = Nonforfeiture Net Level Premium = $_0PVBEN'_{35:121-35\urcorner|} / \ddot{a}_{35:121-35\urcorner|}$
= P_{35}^{NLP} = $1000A_{35} / \ddot{a}_{35}$
= 149.2877188 / 19.75542889 = 7.55679462

AAI = $\left(\sum_{t=1}^{Min\{10,121-35\}} DB_t \right) / (Min[10,121-35])$ = Average Amount of Insurance = 1000

$_{121-35}P'^{A}_{35:121-35\urcorner|}$ = Nonforfeiture Factor = P_{35}^{A}
= ($_0PVBEN'_{35:121-35\urcorner|}$ + .01AAI + 1.25 * Min[$_{121-35}P'^{NLP}_{35:121-35\urcorner|}$, .04AAI]) / $\ddot{a}_{35:121-35\urcorner|}$
= ($1000A_{35}$ + .01(1000) + 1.25 * Min[P_{35}^{NLP}, .04(1000)]) / $\ddot{a}_{35}$
= (149.2877188 + 10 + 1.25 * Min[7.55679462 , 40] / 19.75542889 = 8.5411313

$_{20}CV_{35}$ = Max [$_{20}PVBEN'_{35:121-35-20\urcorner|}$ - $_{121-35}P'^{A}_{35:121-35\urcorner|}$ * $\ddot{a}_{35+20:121-35-20\urcorner|}$, 0], round near cent
= Max [$1000A_{55}$ - P_{35}^{A} * $\ddot{a}_{55}$, 0]
= 313.5276662 - (8.5411313)(15.9414125) = 177.3699689 ==> 177.37

2.) Reduced Paid Up Insurance per Unit

$_{20}PU_{35}$ = $_{20}CV_{35}$ / $A'_{35+20:121-35-20\urcorner|}$, rounded to high dollar
= $_{20}CV_{35}$ / A_{55} = 177.37 / .31352767 = 565.724 ==> 566

3.) Extended Term Insurance

Years = y = Largest integer for which $DB_{t+1} * A'_{x+t:y\urcorner|} <= {}_tCV_x$
$DB_{20+1} * A'_{35+20:26\urcorner|} <= {}_{20}CV_{35} < DB_{20+1} * A'_{35+20:27\urcorner|}$
172.9406241 <= 177.37 < 183.3577249
Years = y = 26

Days = d = 365 * ($_{20}CV_{35}$ - DB_{20+1}*$A'_{35+20:26\urcorner|}$) / (DB_{20+1}*$A'_{35+20:26+1\urcorner|}$ - DB_{20+1}*$A'_{35+20:26\urcorner|}$),
d is rounded to the next highest integer
= 365 * (177.37 - 172.9406241) / (183.3577249 - 172.9406241) = 155.1988 ==> 156

ETI period will be at least 26 years and 156 days.

I have read the form and supporting material submitted with this filing.

I hereby certify, to the best of the undersigned's knowledge and belief, this filing is in compliance with the applicable laws and regulations of this state, including the nonforfeiture values and reserves developed herein equal or exceed the minimum requirements for the standard nonforfeiture (Standard Nonforfeiture Law for Life Insurance, Model 808), including the consistent progress of cash surrender values ("smoothness test"), valuation laws, appropriate actuarial guidelines, and IRS Section 7702/7702A.

No assumptions or provisions unfairly discriminate in availability, rates, benefits, or any other way for individuals of the same class, equal expectation of life, and degree of risk or hazard. The use of variability in this form is administered in a uniform and non-discriminatory manner.

I am a member of the American Academy of Actuaries that meets its Qualification Standards to render this opinion, and employed by the Globe Life and Accident Insurance Company.

Joseph M. Kaner, ASA, MAAA
Associate Actuary, Life Forms & Rates

February 28, 2018
Date

Globe Life and Accident Insurance Company

Oklahoma City, Oklahoma

Actuarial Memorandum

Whole Life

Policy Form : ESWL2001GD

This actuarial memorandum is an actuarial report. The purpose of this report is to be used by state officials as a product description, to demonstrate that nonforfeiture of the product meets the minimum requirements of your state, and to declare the statutory reserve basis. This report is not intended to be used for any other purpose or by any other parties.

Globe Life and Accident Insurance Company
Whole Life
Policy Form : ESWL2001GD

TYPE :
Nonparticipating graded death whole life insurance

BENEFITS :
Death benefit is available for life.
Accidental death beenfits are available in policy years 1-3.
Benefits are reasonable in relation to the premium charged.
The minimum issue amount is $1,000 ultimate face amount.

Policy Year	Death Benefit per $1000 Ultimate Face Amount	Additional Accidental Death Benefit per $1000 Ultimate Face Amount
1	$250	$750
2	500	500
3	750	250
4+	1,000	0

PREMIUMS :
At the option of the applicant, the premiums will either be payable until the policy anniversary following the insured's 65th birthday, or payable for life.

ISSUE AGE RANGE :
0-55 (policies that are paid-up at age 65)
35-71 (policies that are payable for life)
Premiums may be developed in the future to expand the issue age range.

BASIS OF NONFORFEITURE VALUES

Mortality: 2017 CSO - age last birthday - ultimate - composite smoker-nonsmoker
Table D (50%-50% male/female blend) in markets subject to the Norris decision.
Curtate

Interest Rate: 4.50%

Cash Values: Equal to or greater than the minimum required by the Standard Nonforfeiture Law.
Rounded to near cent.

Reduced Paid-Up: Level for life, rounded to high dollar

Extended Term Insurance: Level, term period rounded to at least high day

For nonforfeiture at times other than on policy anniversaries, the straight line interpolation method used. This is allowed due to level premiums and benefits within each policy year.

BASIS OF RESERVE:
Valuation basis will meet the current requirements of the valuation law.
The Basis of Reserves may be adjusted for future new business if required or allowed by prevailing valuation laws.

CHARGES:
Initial acquisition expense charges, expense charges, surrender charges and cost of insurance (COI) charges are not applicable.
This is a traditional nonparticipating life insurance product. This is not a universal life and not an interest sensitive product.

ILLUSTRATIONS:
Not Required. All elements are guaranteed. This form does not have indeterminate premiums.

A. General Formulas (Per Unit Basis, 1 Unit = $1,000)

Definitions

DB_t = Death Benefit at beginning of Policy Year t
= DB_1 for all t

b = age benefit period ends = 121

p = age premium period ends = 65 or 121

${}_tPVBEN'_{x:\overline{b-x-t}|}$ = Present Value of Future Benefits for issue age x at duration t (curtate basis, used for nonforfeiture calculations)

$$= \left(\sum_{k=t}^{b-x-1} DB_{k+1} * C_{x+k} \right) / D_{x+t}$$

GPR_k = Gross Premium Ratio in Policy Year k+1 = (Gross Prem in Pol Yr k+1) / (Gross Prem in Pol Yr 1)
k= 0, 1, 2, 3, …., p-x-1
GPR_k=1 for all k

$\ddot{a}''_{x+t:\overline{p-x-t}|}$ = Present Value of the future gross premium ratios at duration t for issue age x (curtate basis)

$$\sum_{k=0}^{p-(x+t)-1} (GPR_{k+t}) v^k {}_kp_{x+t}$$; where GPR_k is the Gross Premium Ratio in Policy Year k+1

$\ddot{a}''_{x+t:\overline{p-x-t}|} = \ddot{a}_{x+t:\overline{p-x-t}|}$

B. Nonforfeiture Values

1.) Cash Values per Unit

${}_{p-x}P'^{NLP}_{x:\overline{b-x}|}$ = Nonforfeiture Net Level Premium = ${}_0PVBEN'_{x:\overline{b-x}|} / \ddot{a}_{x:\overline{p-x}|} = {}_{p-x}P_x^{NLP}$

AAI = $\left(\sum_{t=1}^{Min\,[10,b-x]} DB_t \right) / (Min[10,b-x])$ = Average Amount of Insurance

${}_{p-x}P'^{A}_{x:\overline{b-x}|}$ = Nonforfeiture Factor = ${}_{p-x}P_x^A$
= $({}_0PVBEN'_{x:\overline{b-x}|} + .01AAI + 1.25 * Min[{}_{p-x}P_x^{NLP}, .04AAI]) / \ddot{a}_{x:\overline{p-x}|}$

${}_tCV_x$ = Max [${}_tPVBEN'_{x:\overline{b-x-t}|} - {}_{p-x}P_x^A * \ddot{a}_{x+t:\overline{p-x-t}|}$, 0], round near cent

2.) Reduced Paid Up Insurance per Unit

${}_tPU_x$ = ${}_tCV_x / A'_{x+t:\overline{b-x-t}|}$, rounded to high dollar

3.) Extended Term Insurance

Years = y = Largest integer for which $DB_{t+1} * A'_{x+t:\overline{y}|} <= {}_tCV_x$

Days = d = $365 * ({}_tCV_x - DB_{t+1} * A'_{x+t:\overline{y}|}) / (DB_{t+1} * A'_{x+t:\overline{y+1}|} - DB_{t+1} * A'_{x+t:\overline{y}|})$,
d is rounded to the next highest integer

ETI period will be at least y years and d days.

C. Sample Calculation - Premiums Paid Up at 65

Issue Age 35; $1,000 Ultimate Coverage per Unit; End of Policy Year 20
2017 CSO-ALB-D at 4.50%

$DB_1 = 250$ $DB_2 = 500$ $DB_3 = 750$ $DB_t = 1000$ for all t>=4

b = age benefit period ends = 121
p = age premium period ends = 65

1.) Cash Values per Unit

${}_{65-35}P'_{35:121-35\urcorner|}^{NLP}$ = Nonforfeiture Net Level Premium $= {}_0PVBEN'_{35:121-35\urcorner|} / \ddot{a}_{35:65-35\urcorner|}$

$= {}_{30}P'_{35}{}^{NLP}$

= 147.668067 / 16.6387682 = 8.8749399

$AAI = \left(\sum_{t=1}^{Min[10,121-35]} DB_t \right) / (Min[10,121-35])$ = Average Amount of Insurance = (250+500+750+(7)(1000)) / 10 = 850

${}_{65-35}P'_{35:121-35\urcorner|}^{A}$ = Nonforfeiture Factor $= {}_{30}P'_{35}{}^{A}$

$= ({}_0PVBEN'_{35:121-35\urcorner|} + .01AAI + 1.25 * Min[{}_{65-35}P'_{35:121-35\urcorner|}^{NLP}, .04AAI]) / \ddot{a}_{35:65-35\urcorner|}$

$= ({}_0PVBEN'_{35:121-35\urcorner|} + .01(850) + 1.25 * Min[{}_{30}P'_{35}{}^{NLP}, .04(850)]) / \ddot{a}_{35:30\urcorner|}$

= (147.668067 + 8.5 + 1.25 * Min[8.8749399, 34] / 16.6387682 = 10.0525315

${}_{20}CV_{35}$ = Max [${}_{20}PVBEN'_{35:121-35-20\urcorner|} - {}_{65-35}P'^{A}_{35:121-35\urcorner|} * \ddot{a}_{35+20:65-35-20\urcorner|}$, 0], round near cent

$= Max [1000A_{55} - {}_{30}P'_{35}{}^{A} * \ddot{a}_{55:10\urcorner|} , 0]$

= 313.5276662 - (10.0525315)(8.10612935) = 232.040546 ==> 232.04

2.) Reduced Paid Up Insurance per Unit

${}_{20}PU_{35}$ = ${}_{20}CV_{35} / A'_{35+20:121-35-20\urcorner|}$, rounded to high dollar

$= {}_{20}CV_{35} / A_{55}$ = 232.04 / .3135276662 = 740.0942 ==> 741

3.) Extended Term Insurance

Years = y = Largest integer for which $DB_{t+1} * A'_{x+t:y\urcorner|} <= {}_tCV_x$

$DB_{20+1} * A'_{35+20:31\urcorner|} <= {}_{20}CV_{35} < DB_{20+1} \cdot A'_{35+20:32\urcorner|}$

226.3813682 <= 232.04 < 237.09166054

Years = y = 31

Days = d = $365 * ({}_{20}CV_{35} - DB_{20+1} * A'_{35+20:31\urcorner|}) / (DB_{20+1} * A'_{35+20:31+1\urcorner|} - DB_{20+1} * A'_{35+20:31\urcorner|})$,

d is rounded to the next highest integer

= 365 * (232.04 - 226.3813682) / (237.09166054 - 226.3813682) = 192.8426 ==> 193

ETI period will be at least 31 years and 193 days.

D. Sample Calculation - Premiums Payable for Life

Issue Age 35; $1,000 Ultimate Coverage per Unit; End of Policy Year 20
2017 CSO-ALB-D at 4.50%

$DB_1 = 250$ $DB_2 = 500$ $DB_3 = 750$ $DB_t = 1000$ for all t>=4

b = age benefit period ends = 121
p = age premium period ends = 121

1.) Cash Values per Unit

$_{121-35}P'^{NLP}_{35:121-35\urcorner|}$ = Nonforfeiture Net Level Premium $= {}_0PVBEN'_{35:121-35\urcorner|} / \ddot{a}_{35:121-35\urcorner|}$
$= P'^{NLP}_{35}$
$= 147.6680671 / 19.75542889 = 7.4748095$

$AAI = \left(\sum_{t=1}^{Min\,[10,121-35]} DB_t \right) / (Min[10,121-35]) =$ Average Amount of Insurance $= (250+500+750+(7)(1000)) / 10 = 850$

$_{121-35}P'^{A}_{35:121-35\urcorner|}$ = Nonforfeiture Factor $= P'^{A}_{35}$
$= ({}_0PVBEN'_{35:121-35\urcorner|} + .01AAI + 1.25 * Min[{}_{121-35}P'^{NLP}_{35:121-35\urcorner|}, .04AAI]) / \ddot{a}_{35:121-35\urcorner|}$
$= ({}_0PVBEN'_{35:86\urcorner|} + .01(850) + 1.25 * Min[P'^{NLP}_{35}, .04(850)]) / \ddot{a}_{35}$
$= (147.6680671 + 8.5 + 1.25 * Min[7.4748095 , 34] / 19.75542889 = 8.378030$

$_{20}CV_{35} =$ Max [$_{20}PVBEN'_{35:121-35-20\urcorner|} - {}_{121-35}P'^{A}_{35:121-35\urcorner|} * \ddot{a}_{35+20:121-35-20\urcorner|}$, 0], round near cent
$= Max [{}_{20}PVBEN'_{35:86\urcorner|} - P'^{A}_{35} * \ddot{a}_{55} , 0]$
$= 313.5276662 - (8.378030)(15.9414125) = 179.97003 \Rightarrow 179.97$

2.) Reduced Paid Up Insurance per Unit

$_{20}PU_{35} = {}_{20}CV_{35} / A'_{35+20:121-35-20\urcorner|}$, rounded to high dollar
$= {}_{20}CV_{35} / A_{55} = 179.97 / .3135276662 = 574.0163 \Rightarrow 575$

3.) Extended Term Insurance

Years = y = Largest integer for which $DB_{t+1} * A'_{x+t:y\urcorner|} <= {}_tCV_x$
$DB_{20+1} * A'_{35+20:26\urcorner|} <= {}_{20}CV_{35} < DB_{20+1} \cdot A'_{35+20:27\urcorner|}$
$172.9406241 <= 179.97 < 183.3577249$
Years = y = 26

Days = d = $365 * ({}_{20}CV_{35} - DB_{20+1} * A'_{35+20:26\urcorner|}) / (DB_{20+1} * A'_{35+20:26+1\urcorner|} - DB_{20+1} * A'_{35+20:26\urcorner|})$,
d is rounded to the next highest integer
$= 365 * (179.97 - 172.9406241) / (183.3577249 - 172.9406241) = 246.2991 \Rightarrow 247$

ETI period will be at least 26 years and 247 days.

I have read the form and supporting material submitted with this filing.

I hereby certify, to the best of the undersigned's knowledge and belief, this filing is in compliance with the applicable laws and regulations of this state, including the nonforfeiture values and reserves developed herein equal or exceed the minimum requirements for the standard nonforfeiture (Standard Nonforfeiture Law for Life Insurance, Model 808), including the consistent progress of cash surrender values ("smoothness test"), valuation laws, appropriate actuarial guidelines, and IRS Section 7702/7702A.

No assumptions or provisions unfairly discriminate in availability, rates, benefits, or any other way for individuals of the same class, equal expectation of life, and degree of risk or hazard. The use of variability in this form is administered in a uniform and non-discriminatory manner.

I am a member of the American Academy of Actuaries that meets its Qualification Standards to render this opinion, and employed by the Globe Life and Accident Insurance Company.

Joseph M. Kaner, ASA, MAAA
Associate Actuary, Life Forms & Rates

2/28/2018
Date